of the heart are not desirable, there being ample evidence—i.e., the sleeping pulse rate, the blood count, the sedimentation rate, the temperature chart, the general appearance, nutrition, etc.—on which for all practical purposes the disease process can be assessed.

The therapeutic value of assurance is far-reaching; it ensures the encouragement and confidence of patients—also, incidentally, that degree of co-operation which is of vital consequence to their recovery and rehabilitation later. It may imply a certain amount of legitimate deceit, but it tends to stabilize the general environment of patients and obviates the development of neurotic symptoms which may be likely to supervene with little provocation in rheumatic children, whose temperament is often characteristically nervous in type.

The rehabilitation of children suffering from heart affections has been the subject of considerable investigation in recent years, and well-standardized schemes based on institutional methods have now been formulated. A comprehensive service for the welfare of children suffering from heart disease is provided in hospitals specially adapted for the purpose, where, in addition to constant medical supervision, the young inmates enjoy all the advantages of juvenile society in their programme of games and graduated exercises, and where, at the same time, facilities for general education and vocational training are also available.

Early Stages of Rehabilitation

In many respects the rehabilitation of adults is a more complex problem than it is in children. They have naturally an inborn dread of heart disease, frequently they are apprehensive regarding their supposed limitations for exertion, and, unless vigorously persuaded to the contrary in these respects, their introspective tendencies may rapidly mature into confirmed neuroses. Such, in point of fact, is more often than not the sequence of events in the group of cases nowadays listed under the title "traumatic heart disease." Admittedly the heart may be seriously injured as the result of accidents affecting the thorax, but in a considerable number of cases the diagnosis is built up on inconclusive evidence and perpetuated by litigation, with disastrous results to any chance of the patient's re-employment subsequently.

When, on the other hand, patients are reassured in the early stages of their illness, they visualize their future with an increasing degree of confidence, and under these circumstances their rehabilitation becomes a natural process. Suitable remedies, medicinal and otherwise, having been prescribed to alleviate the initial stages of the illness, and all urgent symptoms having subsided, a course of light general massage, with passive and later resistance movements at the larger joints, should be begun at the earliest possible moment. Assuming that the patient shows no sign of intolerance to this treatment he may cautiously begin a programme of graduated exercise. Having accommodated himself to the sitting position, first in bed and later in a chair, breathing exercises should be prescribed, and he may next be allowed to test his walking capacity on his bedroom floor, then about the house, and in due course out of doors.

After a varying number of weeks, or possibly months, the circulatory reserve becomes stabilized and the patient may be regarded as having achieved the primary or ambulatory stage of his rehabilitation. Continuing with light general massage and breathing exercises, he may now be allowed to extend his walks by degrees—first on the level, later on easy gradients—and, in general terms, to ensure the maximum of sunshine and fresh air. While the patient is symptom-free the graduated-exercise scheme may proceed in uninterrupted fashion, but any suggestion of intolerance—e.g., complaints of sternal pain, breathlessness, palpitation, faintness, fatigue, etc.—will need investigation, with some revision of the daily routine and probably, for a time, additional allowances of rest. Otherwise it frequently happens that the smooth convalescence of cardiac patients is materially delayed by some degree of obesity, and this condition should always be regarded as a complication of major importance. It constitutes a grave menace to rehabilitation therapy, and in a certain number of cases may be the one outstanding factor that perpetuates incapacity in heart patients and renders them unfit for employment.

Remedial measures should be taken at the earliest possible moment. Certain forms of physiotherapy—e.g., massage, graduated exercise, electrical treatment, recreational activities, etc.—are helpful in varying degree, and in conjunction with these it is essential that dietetic modifications shall be included—e.g., a restricted intake of carbohydrates and fats, with fast days at regular intervals—also thyroid medication in adequate dosage if the basal metabolism happens to be subnormal.

Exercise and Recreation

In the absence of complications patients may be expected to evince in due course a natural urge to regain, through muscular activity, their normal range of physical fitness. As a general rule the first objective should be forms of exercise to which they were accustomed before their illness, also such games and amusements as may be in keeping with their age, physique, and personal inclinations. Certain principles, as follows, are fundamental to the question of exercise and recreation in recovered heart patients:

1. They must not involve extensive muscle-group exertion, either sudden or prolonged.
2. They must not admit of undue exposure to weather extremes or tests of endurance, and, except in mild degree, they must not include contests for athletic supremacy.
3. They must be regulated according to the exercise tolerance of each individual patient, which can be ascertained partly by objective examination, partly also by the patient's own description of his effort sensations.

Suitable Occupations

Having accommodated themselves to appropriate forms of exercise and resumed in other respects their normal routine of domestic habits, patients ultimately arrive at the final stage of their rehabilitation, implying that they are again capable of employment. In general terms recovered heart patients should choose moderately light occupations which do not entail sudden or prolonged physical effort, which admit of relaxation during the working hours, and which afford opportunities for reasonable allowances of fresh air and easy exercises. It may happen that the patient's previous employment conforms to these requirements, otherwise it will be necessary for him to choose an alternative occupation that will be appropriate to his diminished circulatory reserve and, at the same time, suitable to his personal qualifications and natural instincts.

Medical Memoranda

Misadventure under Convulsant Treatment

Treatment by electrically induced convulsions (I prefer the short word "electroplexy") is such a useful and, on the whole, successful treatment for depression that its various hazards should be well publicized.

CASE HISTORY

A youth aged 19 was brought to the out-patient department suffering from adolescent depression. He also had delusions of reference and hallucinations of sound and sight. It was thought that the florid symptoms were signs of a schizoid tendency uncovered by the depression rather than the signs of a primary schizophrenia. It was therefore decided to induce a convulsion once a week in the out-patient department.

On recovering from his third treatment he complained that his two upper central incisors were missing. Two bleeding sockets could be seen, and in their depths the stumps of the two teeth. The teeth themselves could not be found. The couch, the floor, the patient's clothes, the nurse were all searched and radiographs were taken of the chest and abdomen. The x-ray sister then suggested that the teeth may have been lost upwards; she had found a tooth lately in an antrum, where it had been driven by an uppercut. The patient's face was radiographed and the complete teeth were seen lying in the maxilla. On digital examination the roots could be felt protruding immediately above the gum. What had been taken for stumps on the first examination were really the crowns. The teeth had been driven up by the force of the tonic spasm in the second stage of the fit.

It is gratifying to report that the patient has recovered from the psychosis.

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